



**8601A+**

***DIGITAL CAPACITANCE METER***

**OWNER'S MANUAL**

- Read this owner's manual thoroughly before use

## FEATURES

- Battery-powered pocket capacitance meter.
- Charging & discharging circuit provides high reliability and durability.
- Dual integration A/D converter.
- 3 1/2 digit LCD display for clear readout
- Input overload protection.
- Rotary switch for function selection.
- Low battery indicator

## SPECIFICATIONS

### 1. General Specifications

<b>Display</b>	LCD, 3 1/2-digit, Max. reading 1999
<b>Over-range indication</b>	Mark "1" displayed on the LCD
<b>Sampling Time</b>	Approximate 0.4 sec.
<b>Operating Temperature</b>	0°C~50°C (32°F~122°F)
<b>Operating Humidity</b>	Less than 75%
<b>Power Supply</b>	9V battery (6F22)
<b>Dimensions</b>	135 X 72 X 35mm
<b>Weight</b>	200g
<b>Accessories Included</b>	Users Manual            1copy Test alligator clips    1pair

## 1. Electrical Specifications ( $23\pm 5^{\circ}\text{C}$ )

Accuracy is specified for a period of one year after calibration and at  $18^{\circ}\text{C}\sim 28^{\circ}\text{C}$  ( $64^{\circ}\text{F}\sim 82^{\circ}\text{F}$ ) with relative humidity up to 75%.

Accuracy specifications take the form of:

$\pm([\% \text{ of Reading}] + [\text{Number of Least Significant Digits}])$

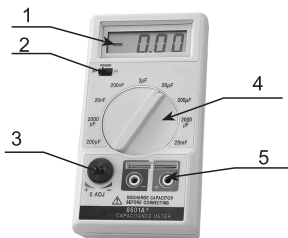
## CAPACITANCE

RANGE	RESOLUTION	ACCURACY	TEST FREQUENCY
200pF	0.1pF	$\pm(0.5\% + 1 + 0.5\text{pF})$	820Hz
2000pF	1pF		
20nF	10pF		
200nF	100pF	$\pm(0.5\% + 1)$	82Hz
2 $\mu\text{F}$	1000pF		
20 $\mu\text{F}$	0.01 $\mu\text{F}$		
200 $\mu\text{F}$	0.1 $\mu\text{F}$	$\pm(2.0\% + 5)$	8.2Hz
2000 $\mu\text{F}$	1 $\mu\text{F}$		
20mF	10 $\mu\text{F}$		
pF= $10^{-12}\text{F}$ nF= $10^{-9}\text{F}$ $\mu\text{F}=10^{-6}\text{F}$			

## Note:

- Temperature coefficient: 0.1%/°C for range 200pF, 2nF, 20nF, 200nF; 0.2%/°C for range 2μF, 20μF, 200μF, 2000μF, 20mF.
- The accuracy listed in the above tables is tested under the condition of RF Field Strength less than 3V/M & frequency less than the 30MHz only.

## FRONT PANEL DESCRIPTION



1. LCD display
2. power switch
3. Zero-adjusting switch
4. Function switch
5. Measuring input jacks

## **OPERATING INSTRUCTION**

### **Precaution**

- Install the battery correctly, and make sure that the battery is well connected.
- Discharge the capacitor before measurement.
- Never input voltage to the input jacks.

### **Preparation**

- Set the function switch to range "200pF", and rotate the zero-adjusting switch for zero-adjusting.
- When measuring in-circuit capacitance, ensure the circuit is switched off and de-energized before connecting the test leads.


Instruments used in dusty environments should be stripped and cleaned periodically.

- Do not leave the instrument exposed to direct heat from the sun for long periods.
- Before removing the battery compartment cover, ensure that the instrument is disconnected from any circuit and the power switch is in the "OFF" position.
- For all measurements, connect the black test lead into "-" jack and the red test lead into "+" jack.

## MEASURING CAPACITANCE (C)

1. Rotate the function switch for the maximum expected capacitance range.
2. Plug the "Test alligator clips" to the "Measuring Input jacks", then connect the capacitor to the alligator clips.
  - Observe polarity when connecting polarized capacitors.
  - Fully discharge any charged capacitors.
3. Read the display. The value indicated corresponds to the range selected. If the display shows "1", it indicates an over-range measurement. In order to improve the resolution, select the next higher range.

## BATTERY AND FUSE REPLACEMENT

1. When the mark " " is shown on the left corner of the LCD, it indicates that the battery voltage is less than the working voltage. It is necessary to replace the battery, however special measurements may still be made for several hours after LOW BATTERY INDICATOR appears before the instrument becomes inaccurate.

2. Open the battery compartment cover, remove the battery.
3. Replace the old battery with a new one of the same rating and reinstall the cover.
4. The fuse rarely needs to be replaced and is blown generally as a result of the operator's error. To replace the fuse, open the case, replace the blown fuse with the ratings specified: F 250mA/250V, and then close the case.